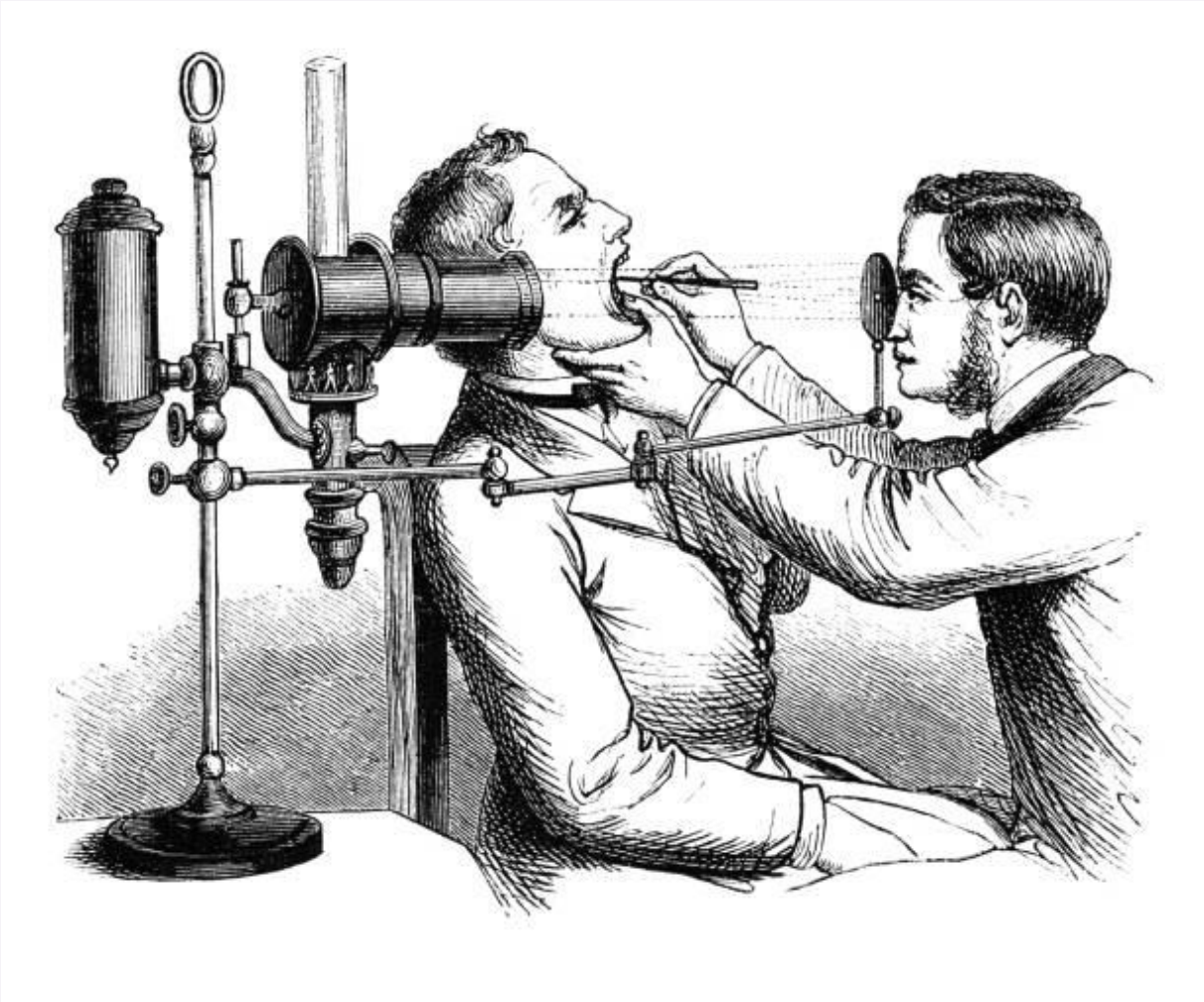
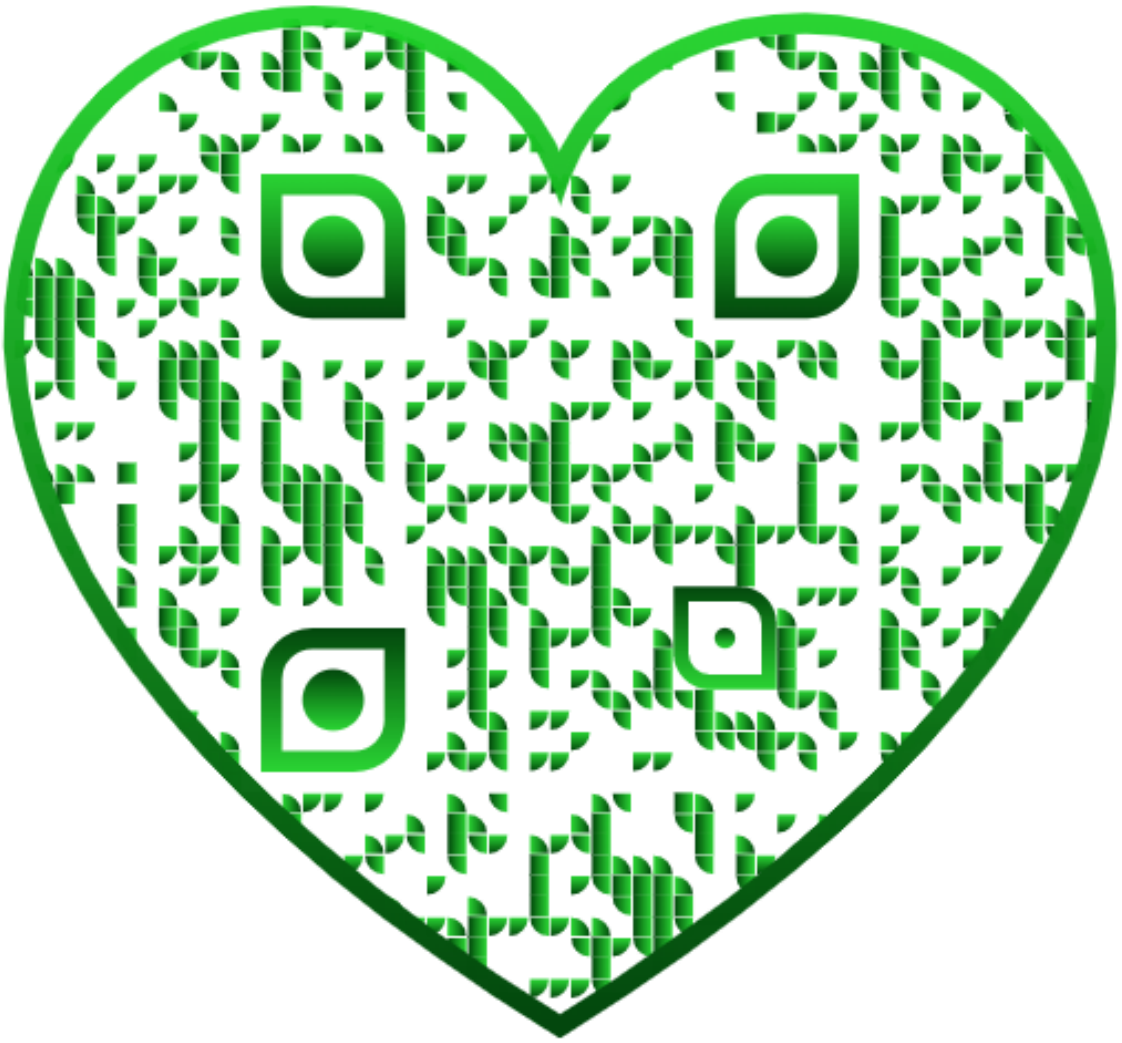
MANUAL OF CLINICAL OTORHINOLARYNGOLOGY

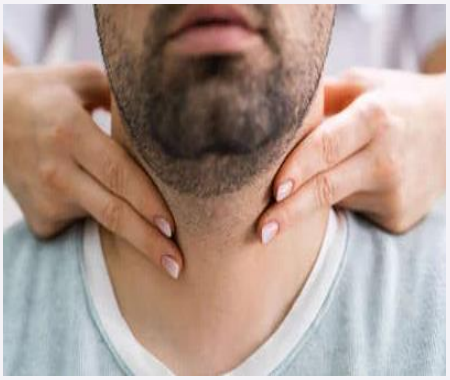




MANUAL OF CLINICAL OTORHINOLARYNGOLOGY

The Official clinical guide of

The Otorhinolarygology Department, Cairo University



PREFACE

The purpose of this book is to provide a practical concise source covering the entire field of otorhinolaryngology. The book is intended for under-graduate medical students, to help them being familiar with most of the ENT lesions and methods of examination, to diagnosis the common problems encountered in the field of otorhinolaryngology. The scope of the book may extend to address house officers, general practitioners and other specialties whose fields overlap with otorhinolaryngology.

This book is considered the official source of the Department of Otorhinolaryngology, Cairo University.

ACKNOWLEDGEMENT

We are so grateful to **ALLAH** for supporting us till this dream came true. We are indebted to everybody who participated in this book.

We are greatly thankful to **Our mentors and Professors** who gave us their time and effort for the best of the medical education and practice in our beloved country – **Egypt**.

We are also so grateful to **Prof. Dr. Manal Al-Masry,** the dean of Kasr Al-Ainy Faculty of Medicine - Cairo University and **Prof. Dr. Safinaz, Salah-Al-Deen** Vice Dean for Education and Student Affairs of Kasr Al-Ainy Faculty of Medicine - Cairo University. They both gave us full support and cooperation and were the best link between our department and the administration of the faculty.

Never to be forgotten are our **undergraduate students** of the previous years who always gave us continuous feedback and positive criticism which helped us very much and greatly encouraged us to accomplish this job to the highest standards.

And finally, we would like to thank everybody in our department who gives his/her effort to care for our patients, teach our students and trains our juniors.

Chairman of the otolaryngology department

Prof. Dr. Hazem Dewidar

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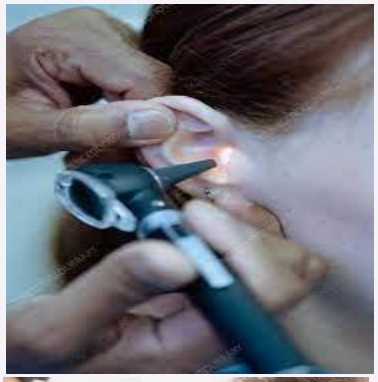
Ear examination

Otoscopic examination



Cone and headlight ear examination

Microscopic ear examination

Pneumatic ear examination with head mirror

Tuning fork

Frenzel glasses examination

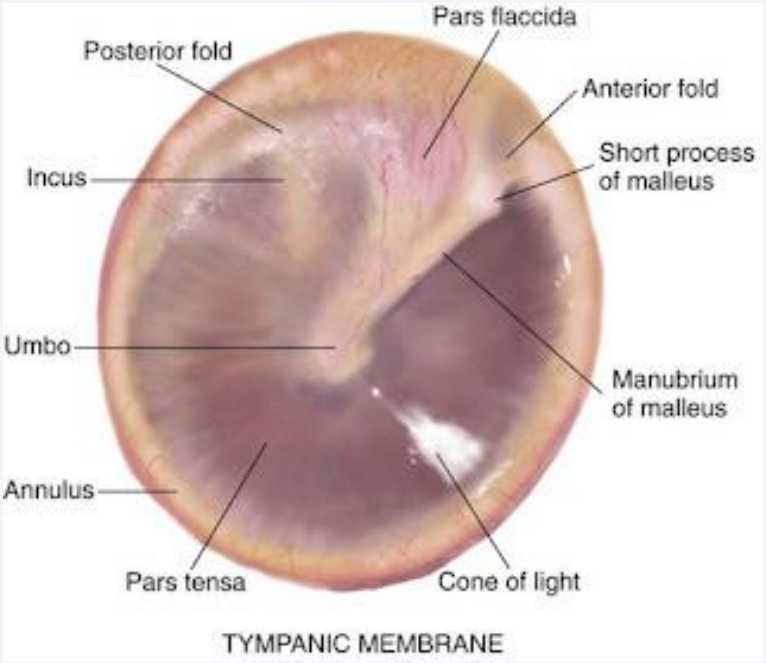
Ear drum

Normal Right ear drum (tympanic membrane) by otoscopy

A normal ear drum is pearly white, intact and slightly concave

the cone of light and the lateral process of the malleus handle must be facing anteriorly

Right normal ear drum illustrated



Congenital Ear conditions

Microtia grade III

Microtia grade IV (Anotia)

Congenital EAC (meatal) atresia

Unilateral meatal atresia by a CT petrous bone

Preauricular cyst

Preauricular sinus

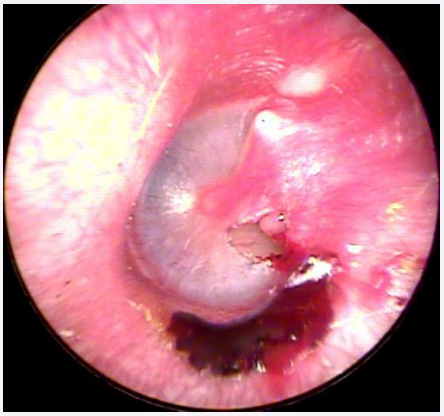
Accessory Auricle

Protruding ear (bat ear)

Traumatic Ear conditions

Rupture of tympanic membrane

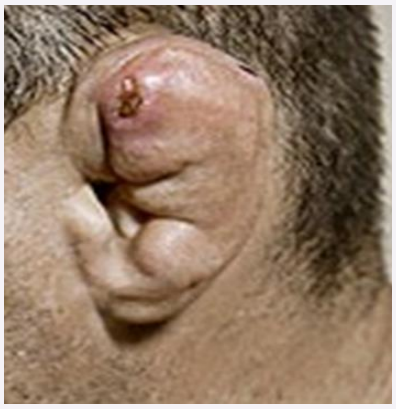
Notice the irregular central perforation, may be with blood



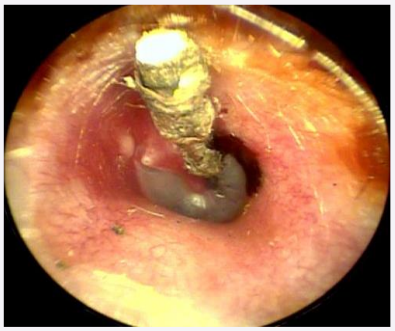
Auricular Hematoma

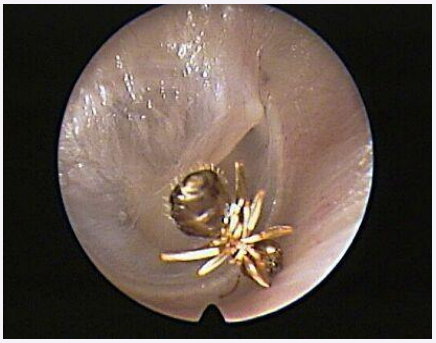
Cauliflower ear

Multiple organized hematomas.



Foreign Body of the Ear





Hemo-tympanum

Notice that the drum appears Blue / Black

Tumors of the Ear:

Exostosis

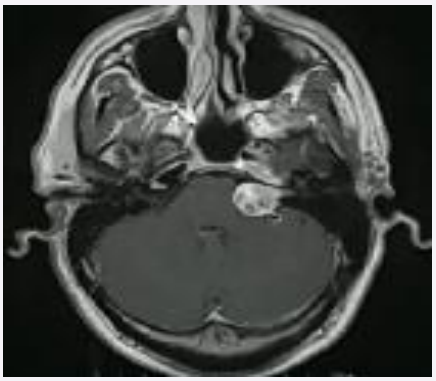
Notice that the lesion is deep in the EAC

Glomus tumors (Paraganglioma / Chemodectoma)

Notice the sun rising appearance

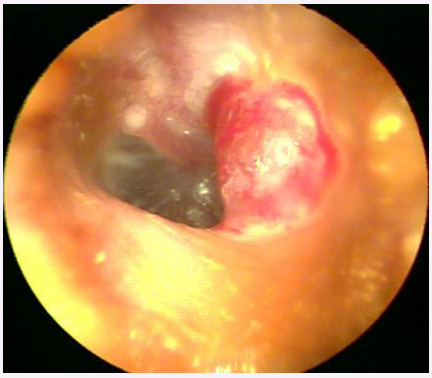
Acoustic Neuroma = vestibular schwannoma by an MRI skull base

Notice the lesion in the CPA



Malignant ulcer in front of the ear (proved Sq.C.C. by biopsy)

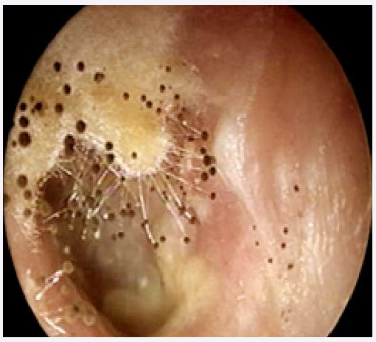
Fleashy mass on otoscopy (proved Sq.C.C by biopsy)



Inflammatory conditions of the ear

Fungal otitis externa (otomycosis)

Notice the black and white (wet newspaper) appearance



Herpes zoster oticus (Ramsay Hunt Syndrome.)

Notice the preauricular vesicles

Localized Bacterial Otitis externa (Furuncle)

Notice that it is in the outer part of the EAC

Diffuse Bacterial Otitis externa

.

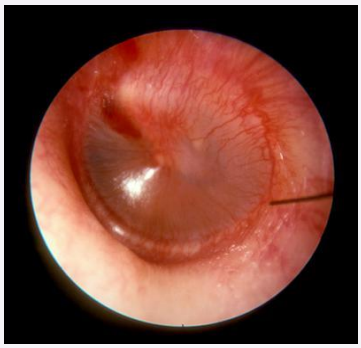
Malignant otitis externa = necrotizing otitis externa = skull base osteomyelitis

Notice the EAC granulations

Bullous Myringitis

Acute suppurative Otitis Media

Notice the red bulged drum



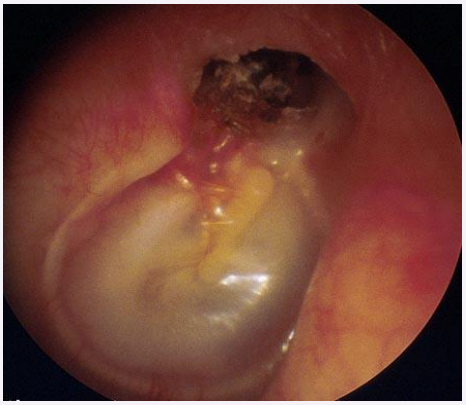
Mucosal Chronic Suppurative Otitis Media = Safe CSOM *Inactive stage*

Notice the regular, central perforation

Mucosal Chronic Suppurative Otitis Media = Tubotympanic CSOM = Safe CSOM *Active stage (i.e. discharging = with acute exacerbation)*

Squamous chronic suppurative otitis media = Unsafe CSOM =Cholesteatoma of the middle ear

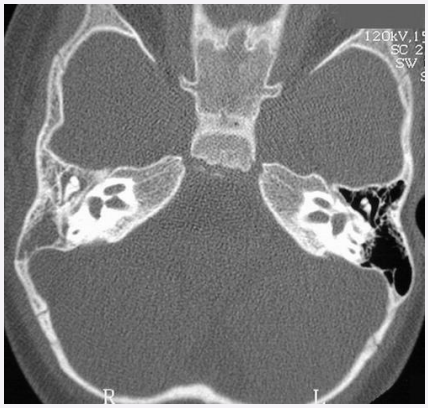
Notice the irregular, marginal (attic) perforation



Aural polyp

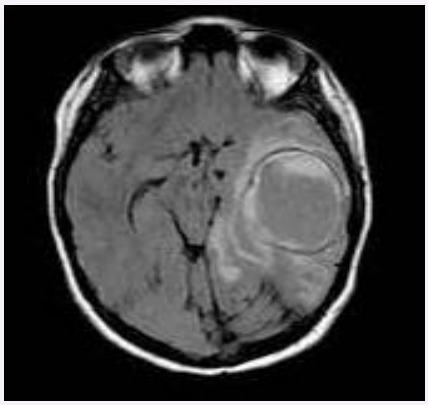
Acute Mastoiditis

Acute Mastiditis by a CT petrous bone



Mastoid fistula

Otogenic cerebral abscess by MRI



Otitis media with effusion (OME) = Secretory otitis media (SOM) = Glue ear

Notice the bubbles behind intact drum

Tympanosclerosis

Notice the white patches on the intact drum

Retracted drum

Atelectic / Adhesive Otitis media

Facial nerve paralysis

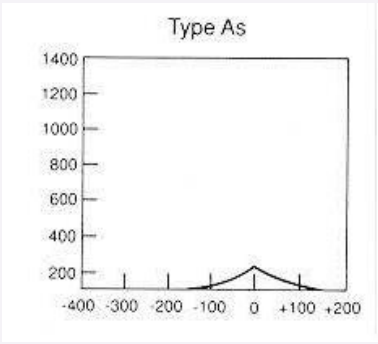
Right LMN Facial nerve paralysis

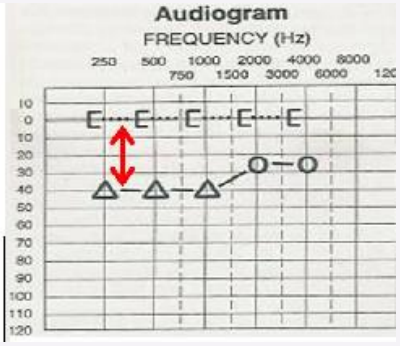
Notice the unfirmly closed right eye, and the dropped right angle of mouth

Otosclerosis

Otosclerosis by hearing tests

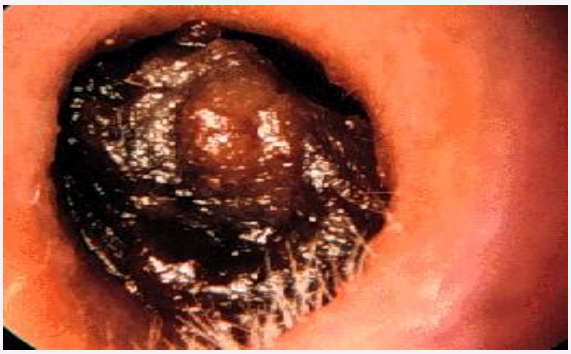
Notice type As tympanometry and PTA showing CHL

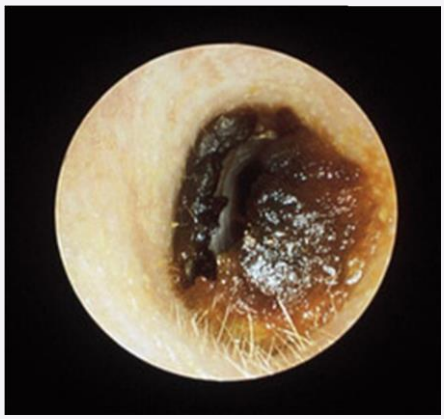




Ear wax

Impacted ear wax

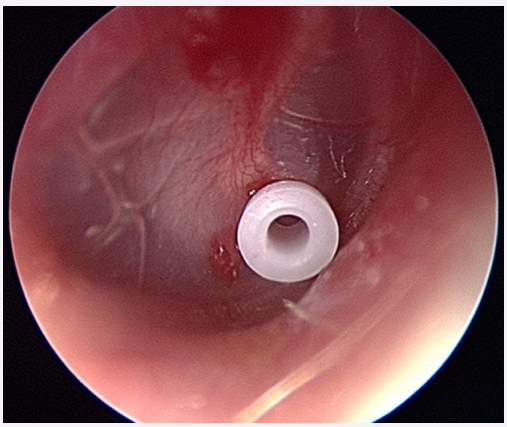




Ear wash

Ear Operations

Myringotomy (with a ventilation grommet tube inserted)



Myringotomy (with a ventilation T tube inserted

Hearing aids

Conventional HA

BAHA (bone anchored hearing aid)

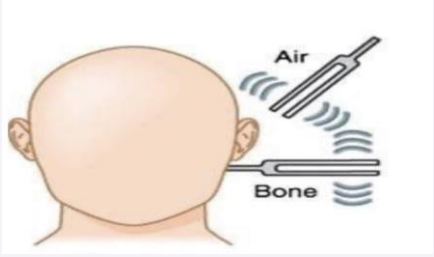
Cochlear Implant

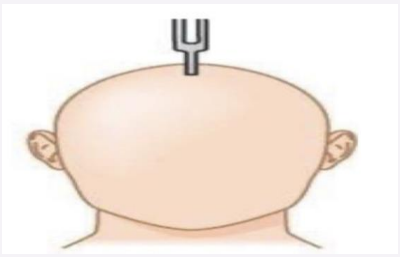
Tests of hearing

Auditory Brain stem Response (ABR)

Rinne test

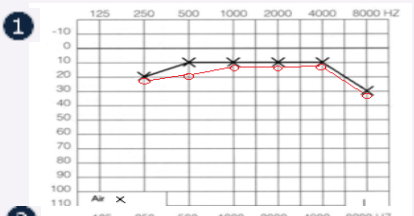
Weber test

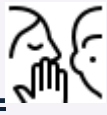




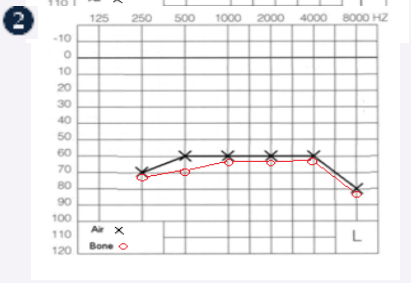
PTA

❶ Normal Notice good BC and AC

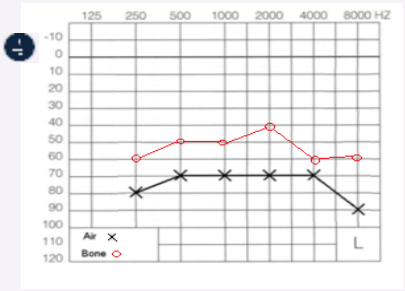


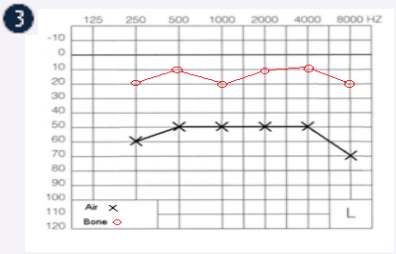
❷ SNHL  Notice bad BC and AC

❸CHL Notice a gap between BC and AC



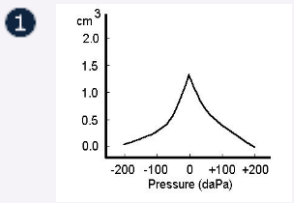
❹MHL



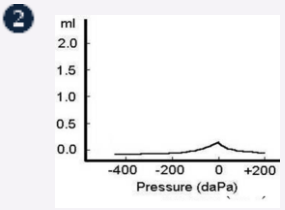


Tympanometry

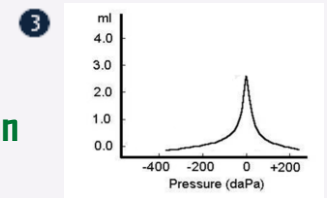
❶Type A Notice maximum compliance at zero

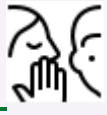


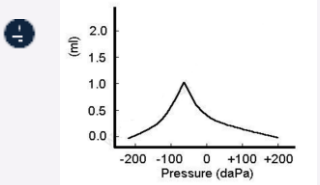
❷Type As Notice maximum compliance at zero and less than 0.5 ml



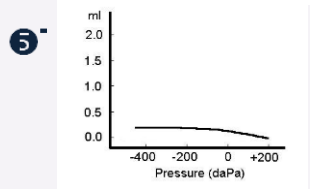
❸Type Ad Notice maximum compliance at zero and more than 2 ml



❹Type C  Notice maximum compliance at the negative side



❺Type B Notice the flat curve



Nose and paranasal sinuses examination

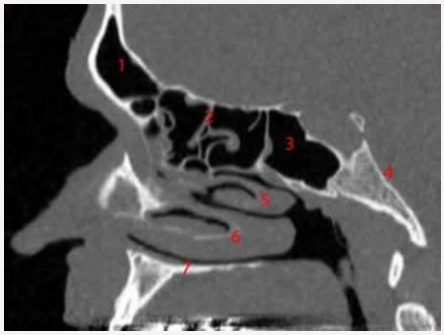
Nasal rhinoscopy

Nasal endoscopy

Normal nasal cavities and Paranasal sinuses by CT nose and PNS coronal cuts

Normal nasal cavities and Paranasal sinuses by CT nose and PNS axial cuts

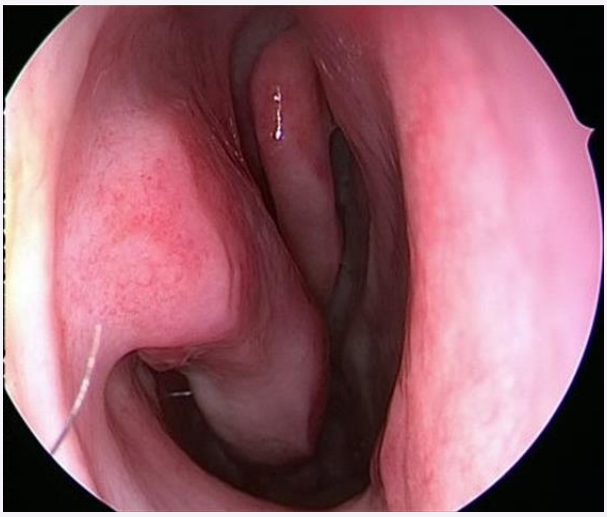
Normal nasal cavities and Paranasal sinuses by CT nose and PNS sagittal cuts



Nasal cavity

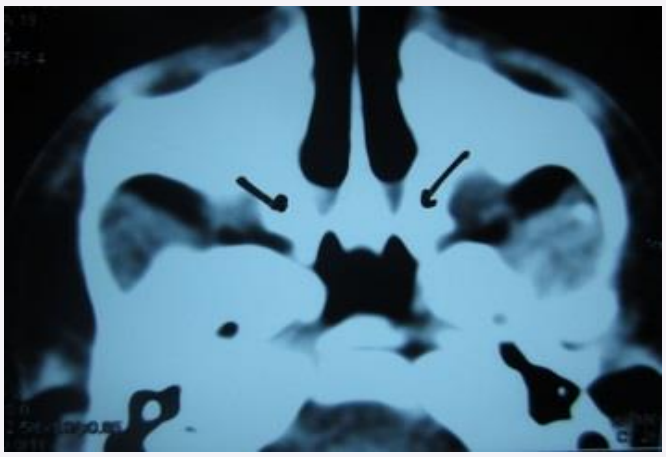
Normal right nasal cavity by rhinoscopy

Notice the septum, the inferior and middle turbinate, and the cavity



Congenital Anomalies of the Nose

Bilateral bony choanal atresia by a CT PNS axial cut



Choanal atresia by endoscopy

Traumatic Conditions of the Nose

Foreign body in the nose

Oro-antral fistula

Oro-antral fistula complicated by maxillary sinusitis by CT

Fracture nasal bones

Fracture nasal bones by X-ray nasal bones lateral view

CSF Rhinorrhoea by MRI with contrast

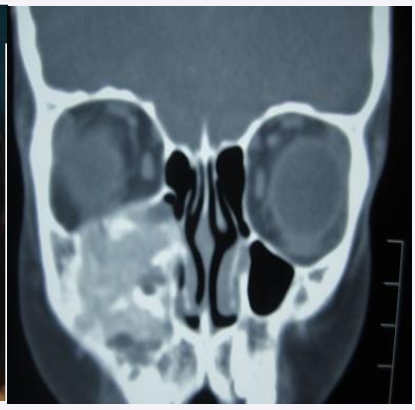
Tumors of the Nose and Paranasal Sinuses

Fronto – ethmoidal Osteoma

Osteoma by CT

Notice the white bone opacity on the CT

Maxillary Fibrous Dysplasia



Fibrous Dysplasia by CT

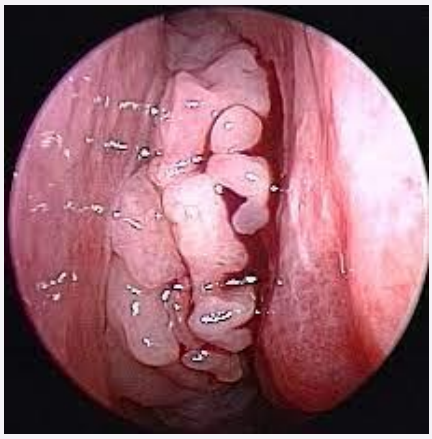
Notice the ground glass opacity (area of hazy bone) appearance on the CT

Nasal Vestibule Papilloma (Wart)

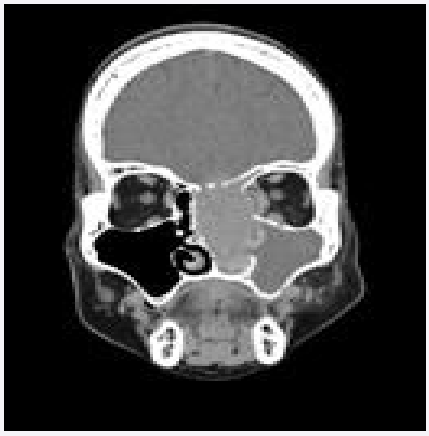
Nasal Hemangioma

-

Inverted papilloma (Schneiderian papilloma) by nasal endoscopy



Inverted papilloma (Schneiderian papilloma) by CT

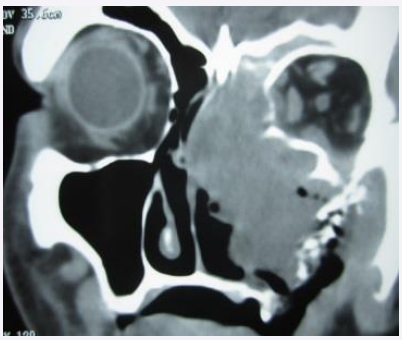


Sino-nasal Malignant tumor by rhinoscopy

Notice the fleshy mass usually in old age male

Sino-nasal Malignant tumor by nasal endoscopy and CT

Notice the invasion on the CT

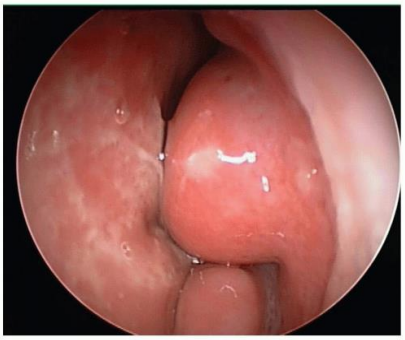


Inflammatory conditions of the Nose

Furuncle = Boil

Nasal Vestibulitis

Hypertrophic rhinitis by endoscopy



Hypertrophic by CT

Atrophic rhinitis by nasal endoscopy

Notice the nasal cavity crusts

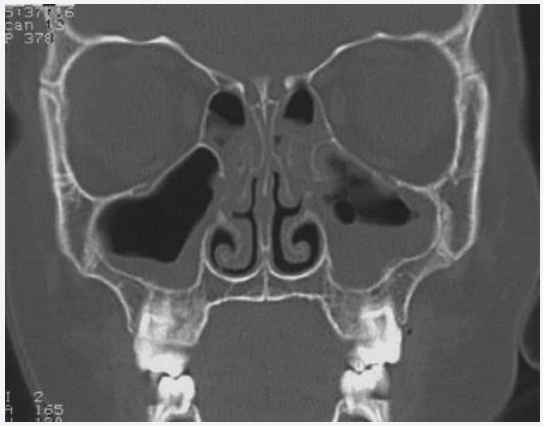
Rhinoscleroma

Sinusitis

Chronic sinusitis by endoscopy

Notice the middle meatus discharge

Chronic sinusitis by CT



Complications of Sinusitis

Orbital Edema (Preseptal Cellulitis)

Orbital Cellulitis

Sub-periosteal Abscess by CT

Orbital Abscess

Cavernous Sinus Thrombosis

Frontal bone Osteomyelitis (Pott's Puffy tumor)

Fronto- ethmoidal Secondary Mucocele

Secondary Mucocele by CT

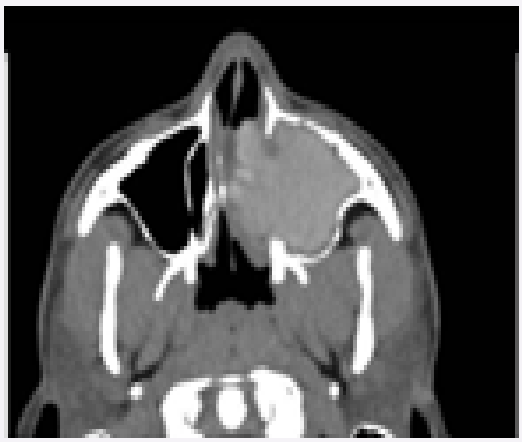
Fungal sinusitis

Acute Invasive Fungal Sinusitis by examination and nasal endoscopy

Allergic Fungal Sinusitis by CT

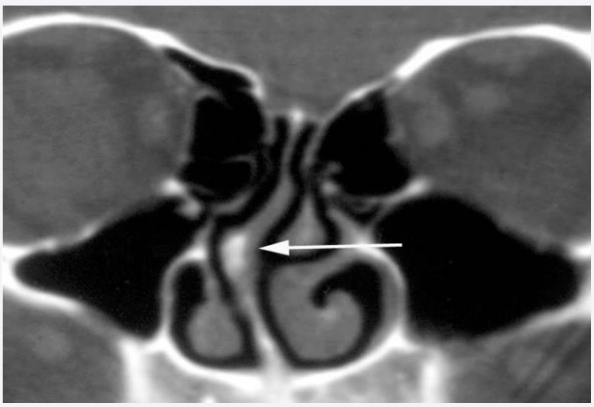
Notice the mottling opacity and sinus expansion

Fungal Ball (Mycetoma) by CT

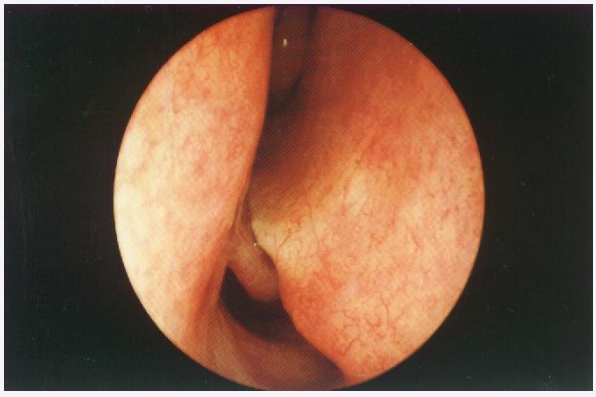


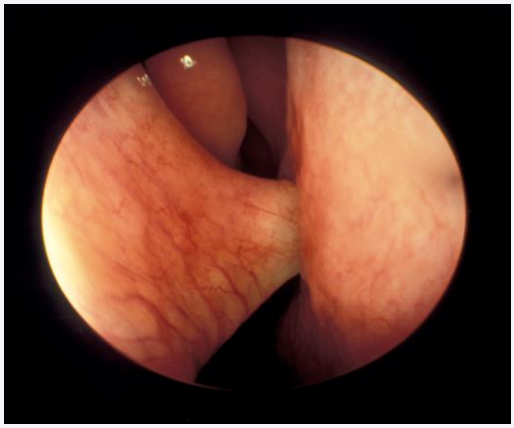
Diseases of the nasal septum

C shaped septal deviation by CT



Septal spur by endoscopy





Anterior septal dislocation

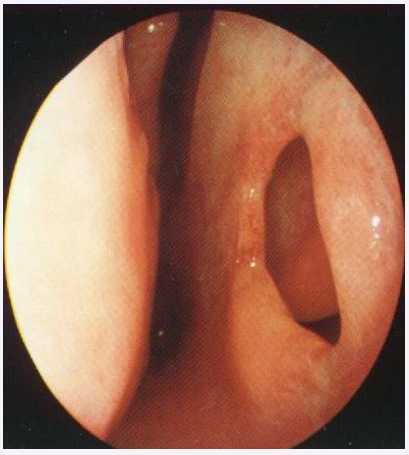
Septal hematoma

Notice the bilateral reddish swelling

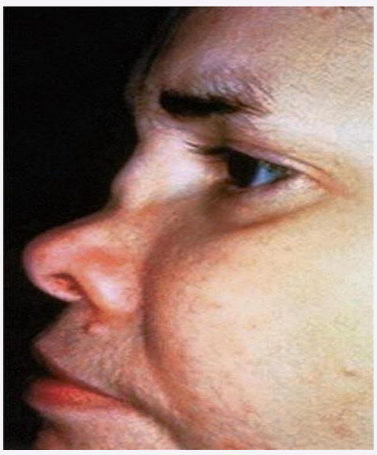
Septal abscess

Secondary infected hematoma

Septal perforation by nasal endoscopy



Saddle nose (a complication of Septal perforation)



Congested little's area

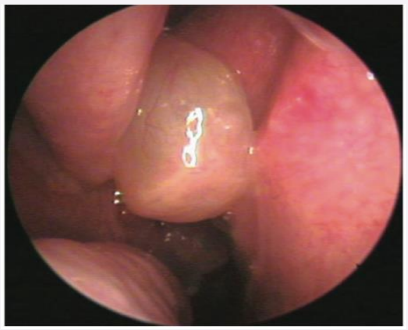
The source of idiopathic epistaxis

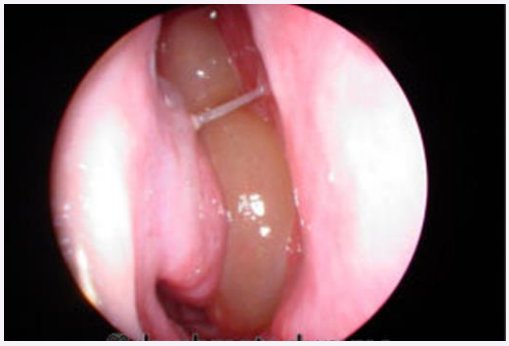
Nasal polyps

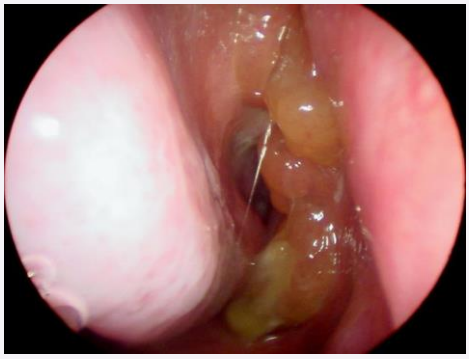
Nasal polyps by rhinoscopy

Nasal polyps by endoscopy

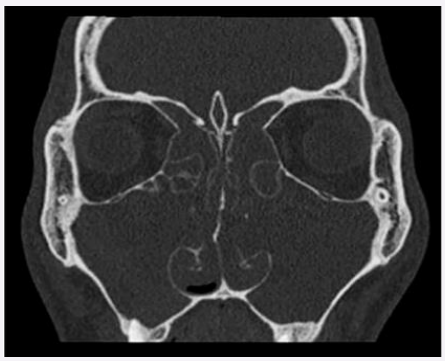
Notice the pale glistening lesion





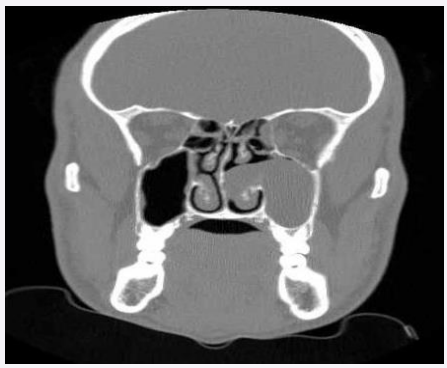


Bilateral allergic nasal polyps by CT



Antrochoanal polyp by CT

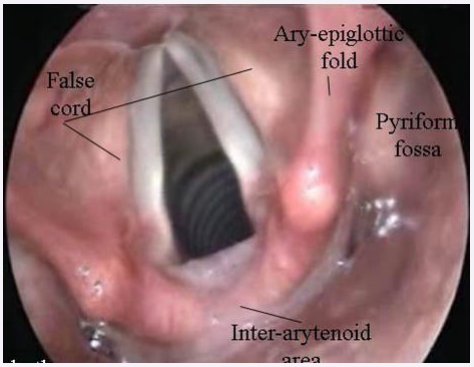
Notice the unilateral lesion in the maxillary sinus and adjacent nasal cavity, with widening in the sinus ostium



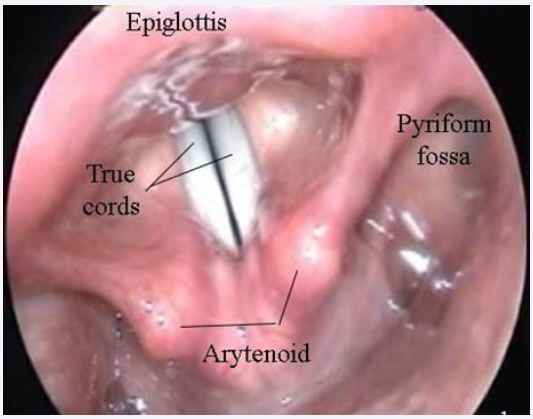
Laryngeal examination

Normal Laryngoscopy during inspiration

Notice the normal hypopharynx



Normal Laryngoscopy during phonation / swallowing

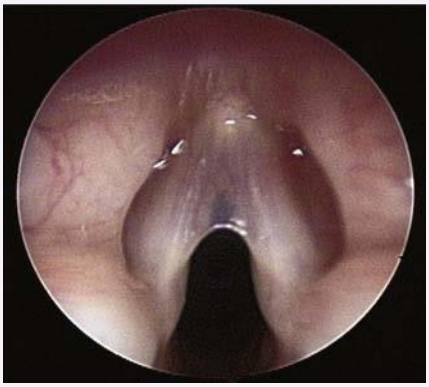


Congenital Anomalies of the Larynx

Laryngomalacia

Notice the omega shaped epiglottis

Congenital Glottic web

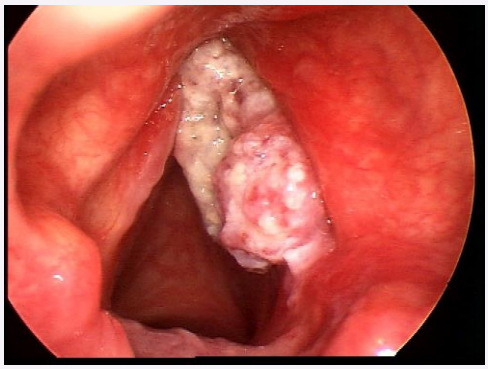


Tumors of the Larynx

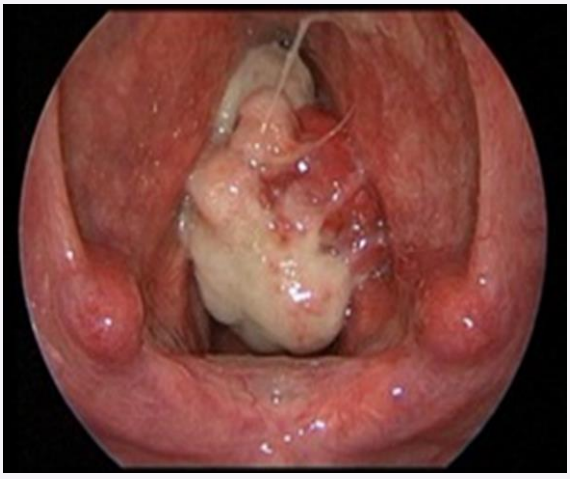
Single adult papilloma

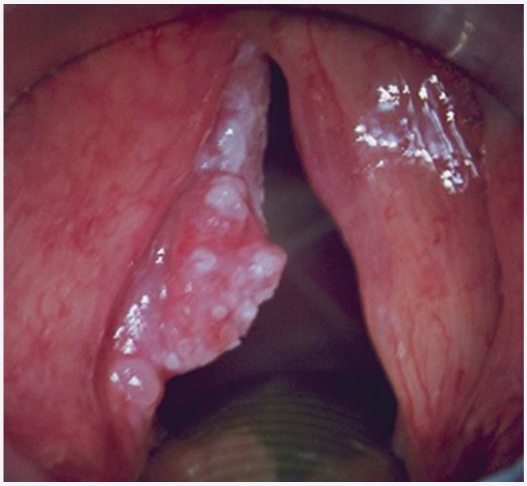
Recurrent juvenile respiratory papillomatosis

Laryngeal glottis carcinoma



Notice the irregular mass invading the VC





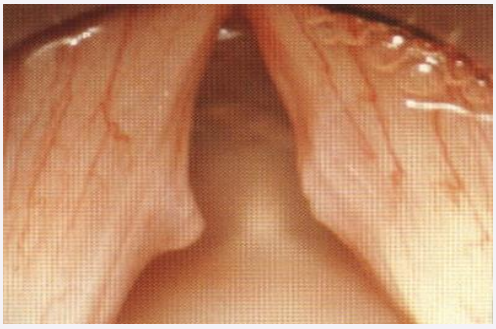
Inflammatory conditions of the Larynx

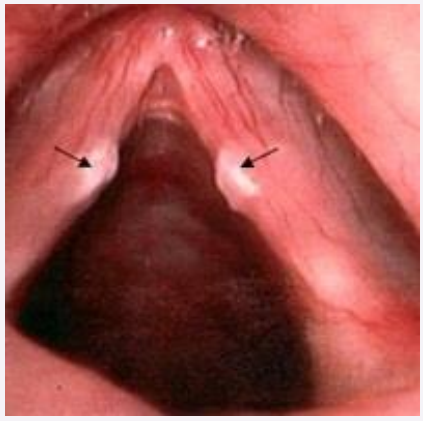
Reinke's Oedema

Notice the bilateral glistening lesions arising from the ventricles

Vocal Cord Nodules (Singer's/Screamer Nodules)

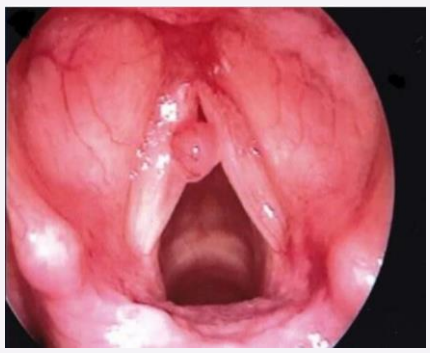
Notice the bilateral mirror image lesions between the anterior 1/3 and posterior 2/3s of the VC

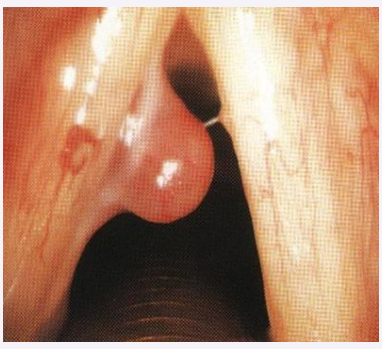




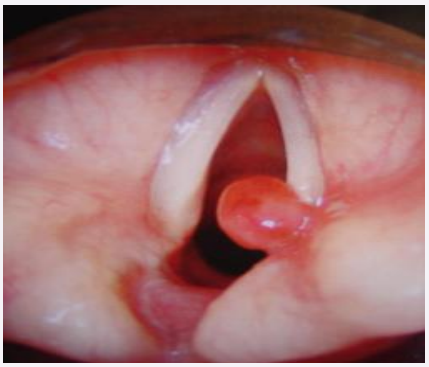
Vocal Cord Polyp

Notice the regular lesion on a rather normal VC

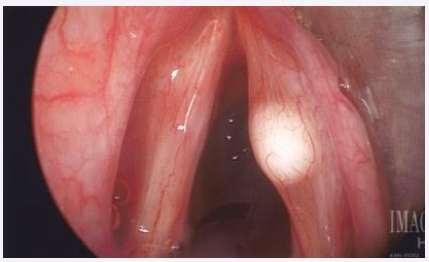




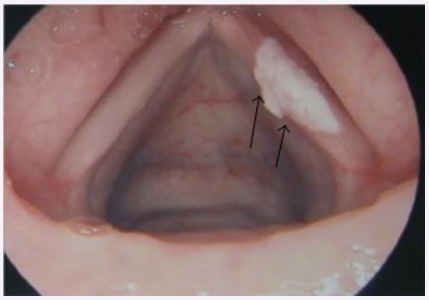
Contact Granuloma



Vocal cord cyst

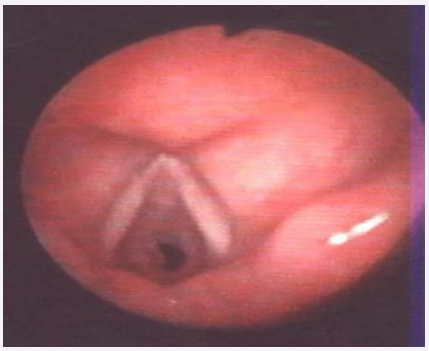


Leukoplakia



Laryngoscleroma

Notice the subglottic stenosis



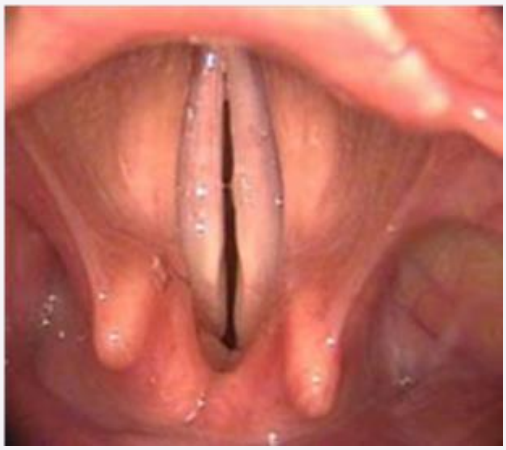
Subglottic Stenosis by CT neck sagittal cut

Laryngeal Paralysis

Unilateral left vocal cord paralysis

Notice the leaning forward and medially left arytenoid

Bilateral vocal cords Abductor Paralysis

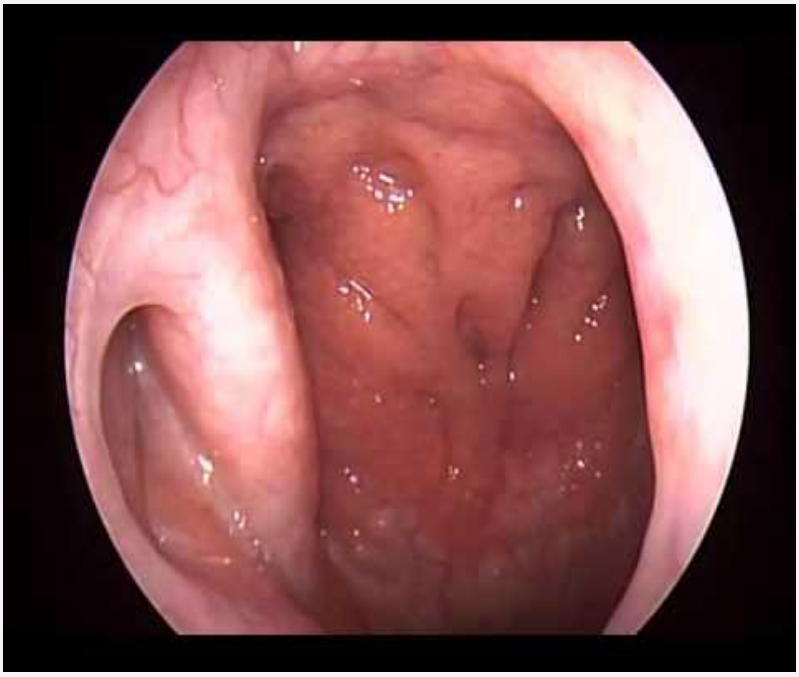


Tracheostomy

Naso-pharyngeal examination

Normal nasopharynx by Naso-pharyngoscopy

Notice the tubal elevation, the opening of the Eustachian tube and fossa or RosenMuller



Nasopharyngeal lesions

Adenoids

Notice the adenoid face deformity

Adenoids by naso-pharyngoscopy and X-rat nasopharynx lateral view

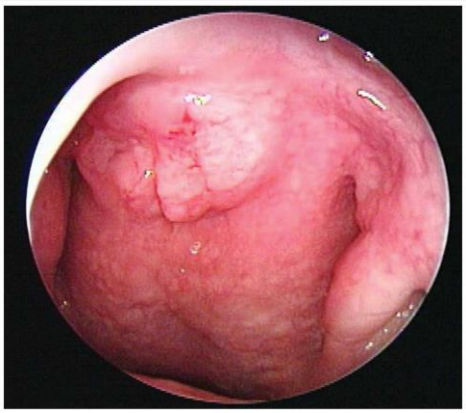
Nasopharyngeal Angiofibroma

Notice the frog face deformity always in a teenage male

Nasopharyngeal Angiofibroma by naso-pharyngoscopy

Nasopharyngeal Angiofibroma by CT and Angiography

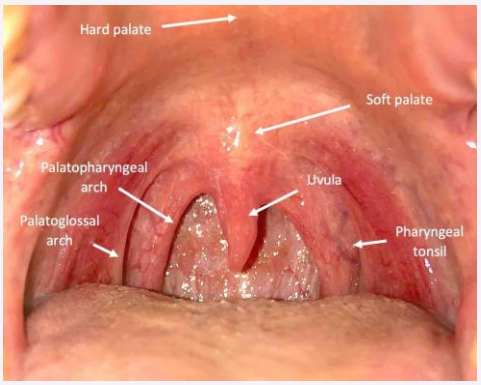
Nasopharyngeal carcinoma by naso-pharyngoscopy



Nasopharyngeal carcinoma by CT

Oropharyngeal examination

Normal oropharyngeal examination



Oropharyngeal lesions

Acute follicular tonsillitis

Nonspecific acute pharyngitis

Diphtheria

Vincent's angina (Trench mouth)

Infectious mononucleosis (IMN)

Moniliasis (Oral thrush)

Oropharyngeal Ulceration

Traumatic ulcer

Neoplastic (malignant) ulcer

Aphthous ulcer

T.B ulcer

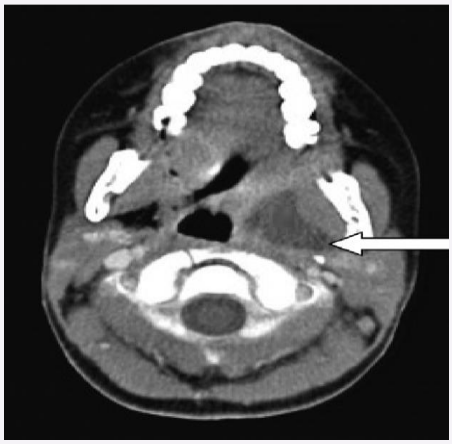
Suppurations of Spaces Related to the Pharynx

Peritonsillar Abscess (Quinsy)

Notice the peritonsillar swelling pushing the soft palate and uvula

Parapharyngeal Abscess

Parapharyngeal Abscess by CT



Ludwig's Angina

Notice the submanddibular / submental neck edema

Cleft palate

Cleft soft palate

Bifid uvula and sub-mucous cleft

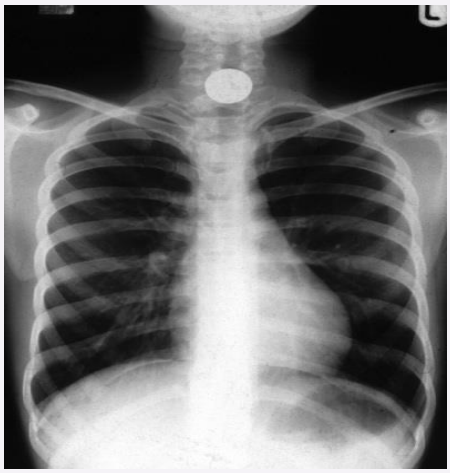
Hypo pharyngeal lesions

Pharyngeal pouch (Pharyngocele / Zenker's Diverticulum) by barium swallow

Pyriform fossa carcinoma by laryngoscopy

Post-cricoid carcinoma on top of Plummer-Vinson's syndrome (Paterson-Brown-Kelly's syndrome)

Ingested F.B by plain X-ray



Esophageal lesions

F.B. in the esophagus by esophagoscopy

Post corrosive stricture by barium swallows

Achalasia by barium swallow

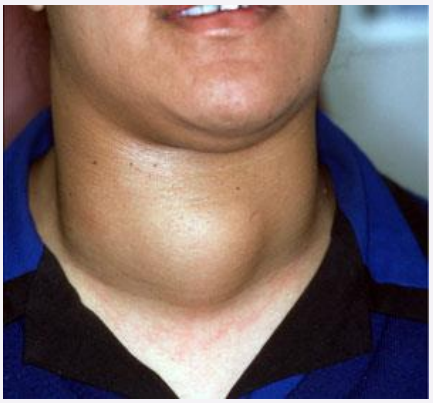
Cancer esophagus by barium swallow

Head and Neck Swellings

Thyroglossal cyst

Thyroglossal fistula

Thyroid gland swelling i.e. Goiter



Ranula

Deep cervical Lymph node

Branchial cyst

Cystic hygroma

Parotid gland swelling

Submandibular gland swelling

End of the Manuel

Wish you Good Luck